

REMARKS

This Application has been carefully reviewed in light of the Final Office Action mailed June 1, 2006. At the time of the Final Office Action, Claims 1-5, 7-12, 14-16, and 18-22 were pending in this Application. Claims 6, 13, and 17 were previously cancelled by Applicants without prejudice or disclaimer. Claims 1-5, 7-12, 14-16, and 18-22 stand rejected. Applicants respectfully request reconsideration and favorable action in this case.

Rejections under 35 U.S.C. §103

Claims 1-5 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 4,868,349 issued to Chok J. Chia ("Chia") in view of U.S. Patent 5,504,378 issued to Frank A. Lindberg et al. ("Lindberg"). Applicants respectfully traverse and submit the cited art combinations, even if proper, which Applicants do not concede, does not render the claimed embodiment of the invention obvious.

The Examiner stated that Chia represents related prior art. Applicants respectfully disagree. Chia discloses a plastic molded pi-grid-array power package. Chia neither mentions nor suggests to use liquid cooling. Therefore, a person skilled in the art would not consider Chia for an arrangement using liquid cooling.

Even if a person skilled in the art would consider Chia, which Applicants do not concede, a combination of Chia with any prior art would not lead to the subject matter as claimed in independent claim 1. According to independent claim 1, "*at least one channel is formed by said heat conduction metal body plate and said integral body.*" Thus, there must be some area between the metal body plate 19 and the integral body 31 which would allow for such a channel. However, the arrangement of Chia does not allow for any channels being formed between the metal plate and the body because this area is occupied by the electronic device 20.

Claims 1-5, 7-12, 14-16, and 18-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,160,708 issued to Josef Loibl et al. ("Loibl") in view of Chia and further in view of Lindberg. Applicants respectfully traverse and submit the cited art combinations, even if proper, which Applicants do not concede, does not render the claimed embodiment of the invention obvious.

The Examiner stated that Loibl represents related prior art. Applicants respectfully disagree. Loibl discloses merely a carrier plate. Again, similar as Chia the use of liquid cooling is neither mentioned nor suggested. Therefore, a person skilled in the art would not consider Loibl for an arrangement using liquid cooling.

The independent claims particularly include the limitation of a body having an opening with a bottom wall. Loibl does not provide for such a limitation. Loibl merely discloses a plate with a hole. Therefore, no bottom wall can be found in the arrangement of Loibl. The Examiner stated that elements 15 represent this limitation. Applicants respectfully disagree. Element 15 represents a latch as correctly stated by the Examiner but not a wall.

The independent claims further include the limitation that “*at least one channel is formed by said heat conduction metal body plate and said integral body.*” However, the area between the plate 11 and the metal plate 10 clearly does not allow for forming a channel. Moreover, none of the prior art disclosed teaches a person how to form a channel between a metal plate and a supporting plate as shown in Loibl. On the contrary, the prior art such as Lindberg disclosing a liquid coolant clearly teach to run the channels through the largest area of a heat sink to generate the best cooling effect. Thus, a combination of Lindberg and Loibl would teach away from the limitation of the present independent claims to define a channel between the metal body plate and the integral body.

Claims 1-5, 7-12, 14-16, and 18-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,940,271 issued to Atila Mertol (“Mertol”) in view of Linberg, Chia, Loibl, and U.S. Patent 5,966,291 issued to Hermann Baumel et al. (“Baumel”). Applicants respectfully traverse and submit the cited art combinations, even if proper, which Applicants do not concede, does not render the claimed embodiment of the invention obvious.

The Examiner stated that Mertol represents related prior art. Applicants respectfully disagree. Mertol similar to Loibl discloses merely a carrier plate 11. Also, similar as Chia the use of liquid cooling is neither mentioned nor suggested. Therefore, a person skilled in the art would not consider Mertol for an arrangement using liquid cooling.

The independent claims particularly include the limitation of a body having an opening with a bottom wall. Mertol does not provide for such a limitation. Mertol, similar as

Loibl, merely discloses a plate with a hole. Therefore, no bottom wall can be found in the arrangement of Loibl. The Examiner did not identify which part of plate 11 forms the bottom wall. The heat sink 8 is clipped onto the frame 11 and a cavity is left between the heat sink and the substrate 22. Mertol in particular teaches to fill this cavity with thermal grease. See Mertol, col. 8, lines 36-47. Thus, this arrangement clearly does not allow for the implementation of any type of channel carrying a coolant.

In summary, none of the prior art teaches the specific limitations of the present independent claims. Moreover, none of the prior art particularly allows for an implementation of the specific limitations of the present independent claims. Therefore, Applicants believe that the prior art cited do not render the independent claims obvious. Applicants respectfully submit that the dependent Claims are allowable at least to the extent of the independent Claim to which they refer, respectively. Thus, Applicants respectfully request reconsideration and allowance of the dependent Claims. Applicants reserve the right to make further arguments regarding the Examiner's rejections under 35 U.S.C. §103(a), if necessary, and do not concede that the Examiner's proposed combinations are proper.

CONCLUSION

Applicants have made an earnest effort to place this case in condition for allowance in light of the remarks set forth above. Applicants respectfully request reconsideration of the pending claims.

Applicants believe there are no fees due at this time, however, the Commissioner is hereby authorized to charge any to Deposit Account No. 50-2148 of Baker Botts L.L.P. in order to effectuate this filing.

If there are any matters concerning this Application that may be cleared up in a telephone conversation, please contact Applicants' attorney, Andy Grubert, at 512.322.2545.

Respectfully submitted,
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